



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,584	09/22/1999	CHARLES D. GAVRILOVICH	GAVRILOVICH-	4845

7590 12/31/2002
LAW OFFICE OF CHARLES D. GAVRILOVICH, JR.
985 PASEO LA CRESTA
SUITE A
CHULA VISTA, CA 91910-6729

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT PAPER NUMBER

2681

DATE MAILED: 12/31/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/401,584

Applicant(s)
Gavrilovich

Examiner
Joy Contee

Art Unit
2681



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 15, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-112 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-36 and 49-112 is/are allowed.
- 6) ☒ Claim(s) 37-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2681

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed October 15, 2002 have been fully considered but they are not persuasive.

In response to applicant's arguments, the recitation "an apparatus adapted to move in accordance with a motion of a mobile unit" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2681

3. Claims 37 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears et al. ("Mears"), U.S. Patent No. 4,539,706, in view of Charas et al. ("Charas"), U.S. Patent No. 5,404,570, both previously used.

Regarding claim 37, Mears discloses an a mobile vehicular repeater apparatus comprising:

a receiver adapted to receive a signal transmitted from the fixed radio port within a frequency band (i.e., F1) inherently higher than a low frequency radio frequency band (col. 4, lines 40-57); and

a transmitter adapted to transmit a resultant signal within [the] frequency band to the mobile unit in accordance with the signal transmitted from the fixed radio port (col. 4, lines 40-57).

Mears does not explicitly disclose wherein the frequency band has a lower limit greater than or equal to 300 megahertz.

In a similar field of endeavor, Charas discloses in a repeater system a lower frequency is in the range of 30 to 300 megahertz (col. 3, lines 15-18).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Mears to include a low frequency port for mobile vehicular repeating for the purpose of providing a signal transmitted from the fixed port to a mobile.

Regarding claim 43, Mears discloses an apparatus comprising:

Art Unit: 2681

a receiver adapted to receive a signal transmitted from the mobile unit within a frequency band inherently higher than a low frequency radio frequency band (col. 4, lines 40-57); and

a transmitter adapted to transmit a resultant signal within the frequency band to the fixed radio port in accordance with the signal transmitted from the mobile unit (col. 4, lines 40-57).

Mears does not explicitly disclose wherein the frequency band has a lower limit greater than or equal to 300 megahertz.

In a similar field of endeavor, Charas discloses in a repeater system a lower frequency is in the range of 30 to 300 megahertz (col. 3, lines 15-18).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Mears to include a low frequency port for mobile vehicular repeating for the purpose of providing a signal transmitted from the fixed port to a mobile.

4. Claims 38,40,44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears and Charas, in view of Briskman et al. ("Briskman"), U.S. Patent No. 5,485,485, previously used.

Regarding claims 38,40,44 and 46, Mears and Charas disclose the limitations of claims 37 and 43. Mears does not explicitly disclose an apparatus according to claims 37 and 43, wherein the frequency band has a lower limit of 300 megahertz (i.e., millimeter wave frequency band having a wavelength from 1 mm to 0.1 mm (300 GHz to 3000GHz)).

In a similar field of endeavor, Briskman discloses an apparatus according to claims 37 and 43, wherein the frequency band has a lower limit of 300 megahertz (col. 3, lines 34-47).

Art Unit: 2681

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified Mears to include operation in a system of two or more satellites (i.e., repeaters) using UHF frequencies including the range from 300 to 3,000 MHZ for the purpose of broadcasting signals to receivers at or near the earth's surface (col. 3, lines 21-27).

5. Claims 39 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears, Charas and Briskman, in view of Ishikawa et al. ("Ishikawa"), U.S. Patent No. 5,696,61, previously used.

Regarding claims 39 and 45, Mears, Charas and Briskman disclose the limitations of claims 38 and 44. The combination does not disclose wherein the frequency band is an optical frequency band.

In a similar field of endeavor, Ishikawa discloses an optical wavelength multiplex transmission method and optical dispersion compensation method (col. 7, lines 18-44)

At the time of the invention it would have been obvious to one ordinary skill in the art to have included operation using an optical frequency band for the purpose of using signal light waves of some sort in order to transmit from the transmitter to the repeater to the receiver in a situation where a line of sight communication path is available.

6. Claims 41,42, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mears, Charas and Briskman, in view of Barkats, U.S. Patent No. 5,615,407, previously used.

Art Unit: 2681

Regarding claims 41, 42, 47 and 48, Mears, Charas and Briskman disclose the limitations of claims 40 and 46. The combination does not explicitly disclose a frequency spectrum from 50 Ghz to 70 GHz (i.e., an oxygen absorption frequency band).

In a similar field of endeavor, Barkats discloses a satellite (i.e., repeaters) communication using a range of available frequencies from 30GHz to 50GHz, for example (col. 4, lines 15-20). Inherently a greater range would be available, e.g., 50 GHz to 70 Ghz.

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified the combination of Mears, Charas and Briskman to include a higher frequency for communication for the purpose of utilizing a range in which there is not a shortage.

Allowable Subject Matter

7. Claims 30-36 and 49-112 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 30-36, 49-62, prior art of record fails to disclose an apparatus adapted to move in accordance with a movement of mobile unit moving relative to a plurality of fixed radio ports, wherein the motion of the moveable base station is independently controllable to the motion of the mobile unit.

Regarding claims 63-82 and 97-102, prior art of record fails to disclose an apparatus adapted to move in accordance with a movement of mobile unit moving relative to a plurality of fixed radio ports, the apparatus comprising: a transmitter adapted to transmit, within the

Art Unit: 2681

frequency band, a resultant signal to the mobile unit in accordance with at least one of the plurality of signals; and a processor adapted to maximize an amount of transferred information to the mobile unit by evaluating a quality of each of the plurality of signals transmitted from the plurality of fixed radio ports.

Regarding claims 83-88 and 107-112, prior art fails to disclose the detailed description involving the following: a communication system adapted to simultaneously provide a communication channel having a data rate of at least 2 megabits per second to each of a plurality of mobile units traveling at a speed greater than 45 kilometers per hour (=28 miles per hour), wherein the density of mobile units to geographic area is at least 6,500 mobile users per square kilometer.

Regarding claims 90-92 and 94-96, prior art fails to disclose the combination of the moveable base station including adjusting the speed of the transmitter in accordance with the motion of the mobile unit.

Regarding claims 103-106, prior art fails to disclose a method of providing a communication connection between a communication network and a plurality of mobile units having a motion relative to a plurality of fixed ports, wherein the plurality of fixed ports are communicatively coupled to the communication network, the method comprising the steps of establishing a first communication link between the plurality of mobile units and a first fixed port of the plurality of fixed ports through a movable base station having a motion in accordance with

Art Unit: 2681

the motion of the mobile units; and simultaneously handing off the plurality of mobile units to a second fixed port of the plurality fixed ports.

These distinct features render the claims allowable.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is (703) 308-0149. The Examiner can normally be reached between 5:30 a.m. and 2:00 p.m., Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached on (703)305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)306-0377

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

(703) 872-9314, (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Application/Control Number: 09/401,584

Page 9


Art Unit: 2681

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).



Joy K. Contee

December 29, 2002



NAY MAUNG
PRIMARY EXAMINER